REMARKS:

This paper is filed in response to the Office Action dated September 25, 2007 for the above-captioned U.S. Patent Application. That office action rejects claims 1-6, 8-16, 18-20 and 22.

More specifically the Examiner rejects claims 1-3, 5-6, 8, 16, 18-20, and 22 under 35 USC 103(a) as being unpatentable over Barrus (US5410305); rejects claims 4, and 9-10 under 35 USC 103(a) as being unpatentable over Barrus in view of Wright (US6912605); and rejects claims 11-15 under 35 USC 103(a) as being unpatentable over Barrus in view of Kammer (US6950645). The Applicant disagrees with the rejection.

Claim 18 has been amended for clarification. Claims 23 to 29 have been added. Support for the amendments can be found at least in paragraphs [0014] through [0019] of the published application. No new matter is added.

Embodiments of the invention relate to a device and associated method of operating the device. The device has a first mode and a second mode and a touch entry user input device for user input. The device is operable to perform a first function when it is in the second mode, but not when it is in the first mode. The device is arranged to initiate exit from the first mode <u>and entry to the second mode at the initiation</u> of the user input and to perform the first function <u>at the completion</u> of the user input wherein the exit from the first mode occurs before discrimination of the user input.

Barrus relates to a portable computer keyboard which is arranged to store data when the keyboard is not attached to a computer. The stored data can be dumped onto a computer when the keyboard is connected to a computer, (abstract, col. 2, lines 57-65).

The keyboard in Barrus has a dwell or sleep mode for conserving power. The keyboard will enter sleep mode whenever there are no input commands waiting to be processed. The keyboard will remain in the low power mode until it is interrupted by a closed keyboard switch or connection of

the keyboard to a host computer (col. 13, lines 27-36). Barrus therefore discloses a method of

using command or control keystrokes detected from a keyboard to provide a method of switching

between modes of operation (col. 10, lines 53-57).

However, the present invention relates to a method of reducing the inherent delay in response

times when a user input, such as a key input, is used to initiate exit from a low power mode to a

high power mode.

The Applicant notes that the invention as defined by the claims comprises a method to achieve

the reduction in a delay. The method comprises detection of <u>the initiation</u> of a user input,

transferring from the first mode in response to the detection of the <u>initiation of the user input,</u>

discriminating the user input after the exit from the first mode, and performing the function

associated with the user input at the completion of the user input.

Claim 1 recites:

> "A device having a first mode in which the device does not perform a first
> function and a second mode in which the device does perform the first function
> wherein the device has a touch-entry user input device for user input and is
> arranged, when in the first mode, to initiate exit from the first mode and entry into
> the second mode at the initiation of a user input and to perform the first function
> at the completion of the user input wherein the exit from the first mode occurs
> before discrimination of the user input."

The Applicant contends that Barrus does not disclose or suggest at least the feature of performing

a function at the initiation of a user input. In particular Barrus does not disclose or suggest exiting

from the first mode and entering a different mode of operation in response to the detection of an

initiation of a user input.

In the Office Action regarding the rejection of claim 1 the Examiner states:

> "to perform the first function at the completion of the user input wherein the exit

from the first mode occurs before discrimination of the user input (**column 10 lines 31-57, column 12 line 56 to column 13 line 19**);" and

"It would have been obvious to one of ordinary skill in the art to recognize that the keyboard exit into working mode as soon as a keystroke signal is detected. Note that it is obvious that to mode switching it is an indiscriminate keystroke because any keystroke signal can wake up the keyboard. And **the keyboard has to wake up first** to operate and to discriminate user's input at keystroke completion, **which makes keystroke determination and discrimination** occurs after the exit from the first mode," (emphasis added).

The Applicant notes that by the Examiner's comments the Examiner appears to be asserting that the keyboard in Barrus is waking up **before the key press is discriminated**. The Applicant contends this assertion is improper.

As cited Barrus actually discloses:

"Usually, during normal operation, the microcontroller 230 will be in a low power "sleep" mode **until interrupted by a keystroke signal** from the keyboard interface circuit 290. **In response, the microcontroller 230 "wakes up" and scans the keyboard matrix 340 to determine which key was pressed** [...]As will be clear from the following description of the program control flow, command or control keystrokes detected from the keyboard interface circuit 290 provide a method for switching between the various modes," (emphasis added), (col. 10, lines 36-57).

Further, Barrus discloses:

"The device of the present invention includes a keyboard interface circuit 290 that **monitors** a **keyboard switch matrix** 340 and, **when scanned** by the **microcontroller 230, produces signals corresponding to any key depressed** on the **keyboard**," (emphasis added), (col. 6, lines 11-15)

The Applicant contends that Barrus explicitly discloses that a keyboard switch matrix 340 is monitored by the keyboard switch matrix and when scanned by the microcontroller produces signals corresponding to any depressed key. The Applicant contends that as stated Barrus fails to provide support for the Examiner's assertion in the rejection that "the keyboard has to wake up first to operate and to discriminate user's input at keystroke completion." The Applicant

contends that Barrus as cited can not be seen to disclose or suggest exit from a first mode and entry into the second mode **at the initiation of a user input** and to perform the first function at the completion of the user input, where the exit from the first mode occurs before discrimination of the user input as in claim 1.

These features provide at least the advantage that they reduce the inherent delay in response times when a user input is used to initiate exit from a low power mode to a high power mode, because the entry into the high power mode occurs while the user is initiating the key press, the device is ready in the second mode once the user input is finished and can perform the function immediately at the completion of the user input.

The Applicant contends that a person skilled in the art would not consider modifying the teachings of Barrus so as to introduce the features of the claimed invention for at least the reason that Barrus does not disclose or suggest that the delay resulting from the time it takes for the device to enter the high power mode is disadvantageous. Barrus discloses having a queuing system so that if there is a delay in the time it takes to process a keystroke the code associated with the keystroke is added to a queue of codes waiting to be processed (column 13 lines 20 to 26). Therefore there would be no reason to look to reduce the inherent delays in Barrus because Barrus already has a specific method of dealing with these delays.

The Applicant contends that introducing such a feature would also require modification of the device in Barrus because it would require introducing means for **detecting the initiation** of a user input. Further, the Applicant contends that there would be no obvious advantage to doing this because as stated the device in Barrus already has a mechanism for dealing with the delays.

Also Barrus teaches against entering the working mode as soon as possible because in Barrus the keyboard will remain in the working mode as long as there are codes in the queue waiting to be processed and will enter the low power mode whenever there are no codes to be processed in order to save power. There would be no advantage to entering the working mode before the code is ready to be discriminated, that is before the input has finished, because this would just

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consume power without performing any function.

Furthermore the Applicant maintains that the Examiner has used impermissible hindsight in the analysis of the prior art. The Examiner has inferred features into Barrus which can only be inferred with hindsight knowledge of the invention. In the Office Action the examiner argues that the exit into working mode occurs "as soon as a keystroke signal is detected" and refers to column 10 lines 31 to 41 of the description. However the Applicant argues that this section does not disclose the exit into working mode occurring "as soon as a keystroke signal is detected". The Applicant contends that as cited Barrus merely discloses that a keystroke signal will interrupt the low power mode. There is no disclosure anywhere in Barrus of the exit into the working mode occurring at any specific time in relation to the key press and it is only with knowledge of the invention that any suggestion of such features can be inferred from Barrus.

The Applicant notes that the newly added claim 25 introduces the feature that the first function, which is performed at the completion of the user input, is a communications function.

This feature is not disclosed in Barrus. In Barrus the function that is performed after the key press is completed is the decoding of the key press. The transmission of the data stored in the keypad is only transmitted to the computer when the device is connected to a host computer, and there is no disclosure or suggestion of this happening in response to a key press.

It would be disadvantageous to introduce such a feature into the teachings of Barrus because Barrus discloses a system which is designed to minimize the amount of communication required between a key board and the computer. Therefore there would be no reason why a person skilled in the art would consider adding this feature into Barrus.

Therefore for the above-mentioned reasons the applicant maintains that the present invention is both novel and non-obvious with respect to Barrus.
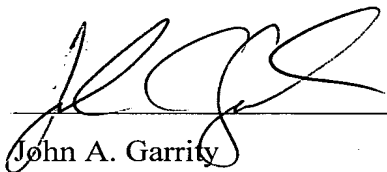
The Applicant further contends that none of the other references cited in the office action are seen

to overcome the deficiencies of Barrus as stated above. More particularly the Applicant contends that none of the references cited is seen to disclose or suggest a user input device having the features as defined by the claims.

The Examiner is respectfully requested to reconsider and withdraw the rejections of claims 1-6, 8-16, 18-20 and 22 to allow each of the pending claims 1-6, 8-16, 18-20 and 22. Should any unresolved issue remain, the undersigned representative welcomes the opportunity to resolve them via teleconference as the Examiner may deem it appropriate to do so.

Respectfully submitted:

_____   _12/26/2007_____
John A. Garrity   Date
Reg. No.: 60,470
Customer No.: 29683
HARRINGTON & SMITH, PC
4 Research Drive
Shelton, CT 06484-6212
Telephone: (203)925-9400
Facsimile: (203)944-0245
email: jgarrity@hspatent.com

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12/26/2007
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Date

Elaine F. Mian
_____
Name of Person Making Deposit

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